

## ABSTRACT

A power controller for detecting the output power without using a power coupler is disclosed. The power controller includes a plurality of stage amplifiers, a plurality of matching circuits, at least one power detector, and a bias control circuit. The stage amplifiers receive emission signals and amplify the power thereof. The matching circuits are connected between the stage amplifiers for matching with the stage amplifiers, respectively. The power detector detects the power of the stage amplifiers and generates detection signals, respectively. The bias control circuit receives the detection signals of the power detector, thereby generating a bias of each of the stage amplifiers in order to optimize the efficiency of each of the stage amplifiers according to the magnitude of the power of each of the stage amplifiers.